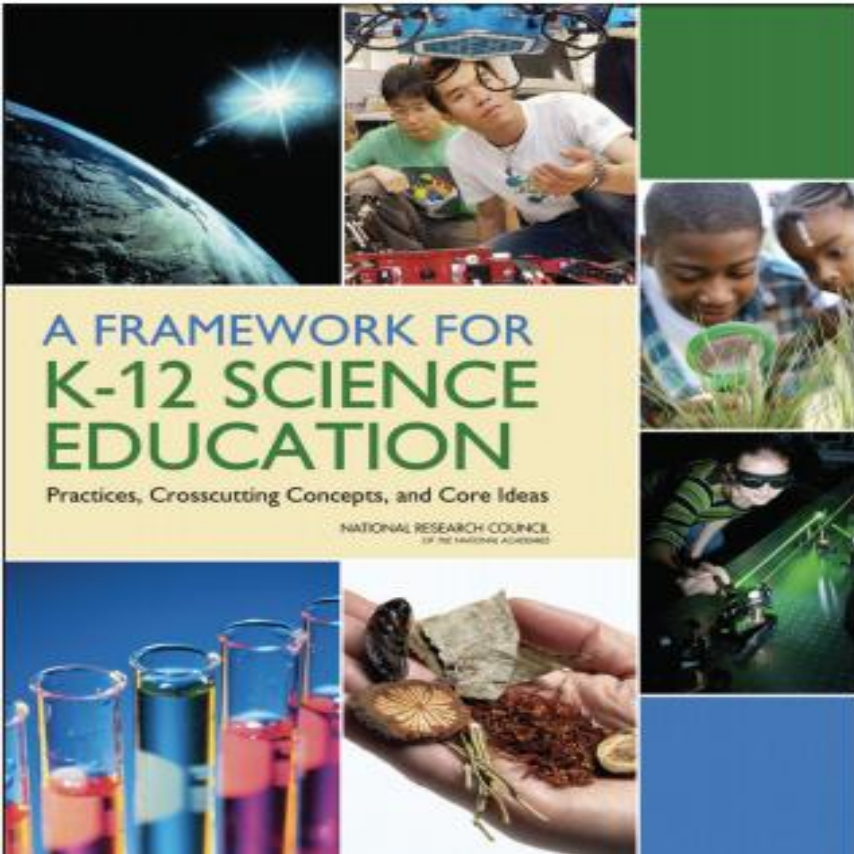




Next Generation Science Standards (NGSS) Development



A FRAMEWORK FOR K-12 SCIENCE EDUCATION

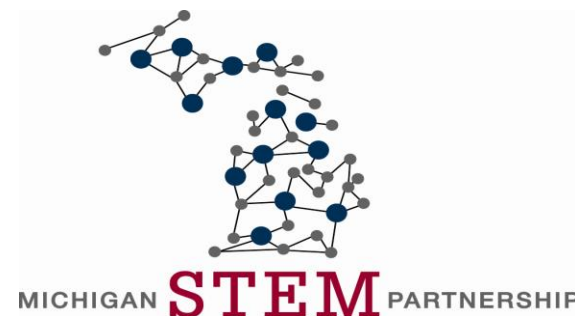
Practices, Crosscutting Concepts, and Core Ideas

NATIONAL RESEARCH COUNCIL
OF THE NATIONAL ACADEMIES

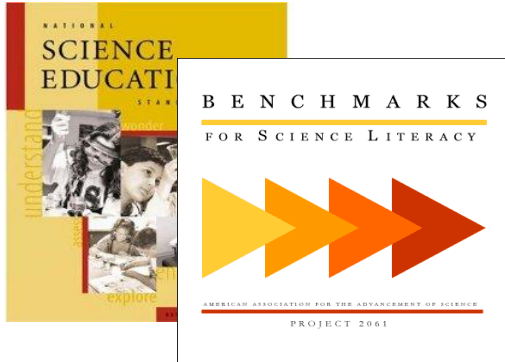
Michigan – An NGSS Lead State Partner



Next Generation Science Standards for Today's Students and Tomorrow's Workforce



Building on the Past; Preparing for the Future

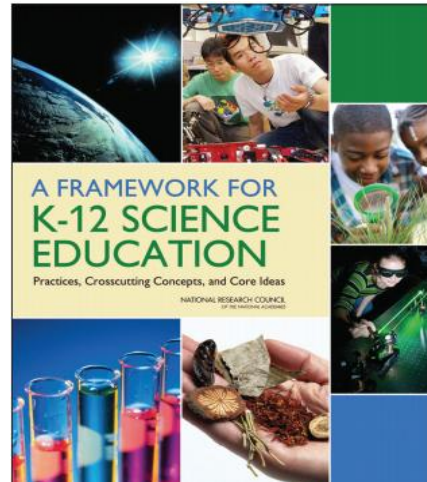
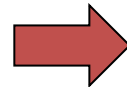
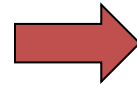
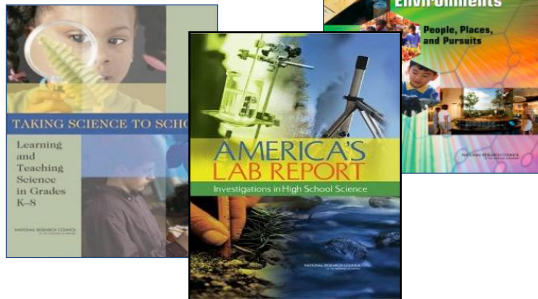


1990s

Phase I

Phase II

1990s-2009

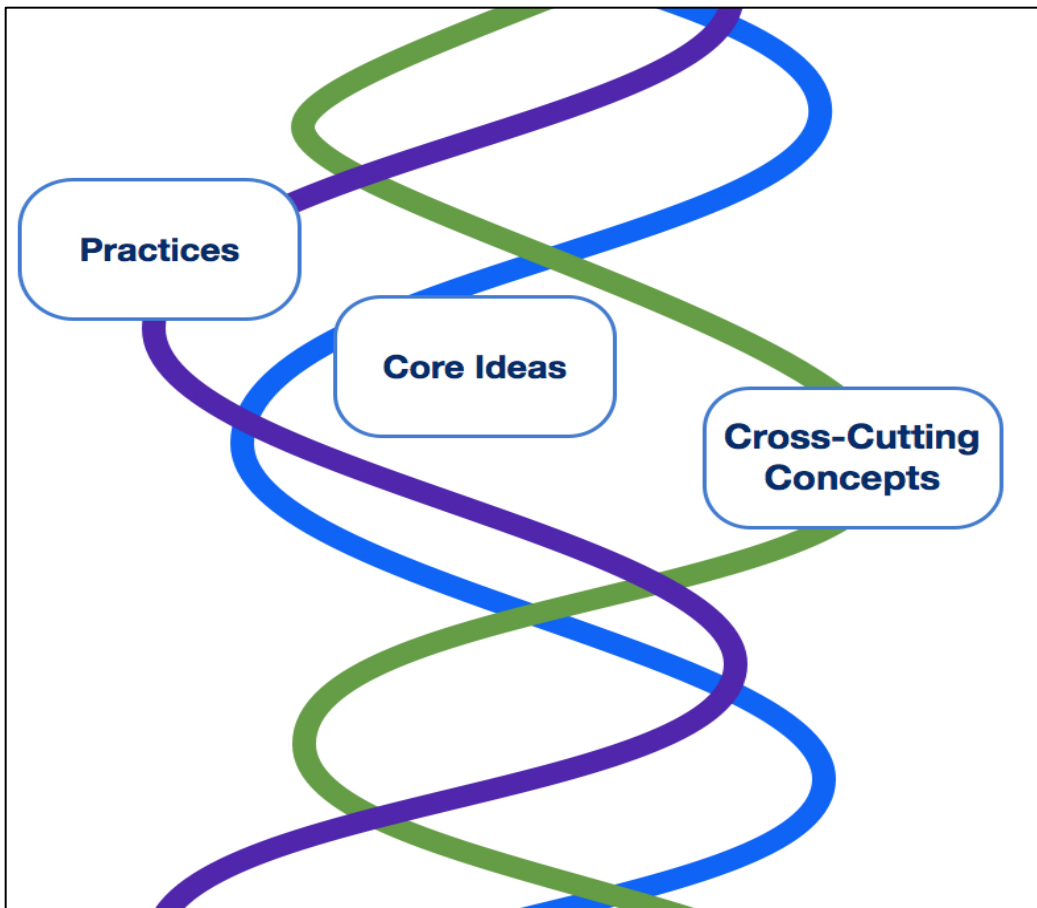


1/2010 - 7/2011



July 2011 – March 2013

Three Dimensions Intertwined



- The NGSS are written as Performance Expectations
- NGSS will require contextual application of the three dimensions by students

Conceptual Focus of NGSS



1. K-12 Science education should reflect the **interconnected nature** of science as it is practiced and experienced in the **real world**.
2. The NGSS are student performance expectations – **NOT curriculum**.
3. The science **concepts build coherently** from K-12.
4. The NGSS focus on **deeper understanding** of content as well as **application** of content.
5. Science and Engineering are **integrated** in the NGSS from K–12.
6. The NGSS and **Common Core State Standards (CCSS)** for ELA/Literacy and Mathematics are **aligned**.

www.nextgenscience.org

Web Access to All NGSS Documents

The screenshot shows a Mozilla Firefox browser window with the address bar displaying www.nextgenscience.org. The browser's tab bar includes several open tabs: "Microsoft Exchange - Outlook Web A...", "Michigan Legislature - Senate Bill 006...", "AOL Mail (2670)", "echo reading - Yahoo! Search Results", and "Next Generation Science Standards". The website's header features the "NEXT GENERATION SCIENCE STANDARDS For States, By States" logo on the left, navigation links for "News", "FAQ", and "Contact" in the center, and a "SIGN UP TODAY FOR EMAIL UPDATES" form on the right. Below the header is a horizontal menu with five items: "HOME", "ABOUT THE DEVELOPMENT", "WHY SCIENCE STANDARDS?", "NEXT GENERATION SCIENCE STANDARDS", and "IMPLEMENTATION". The main content area features a large banner image of a student in a lab coat and safety goggles working with test tubes. Overlaid on the right side of this image is the text "Review the Draft Standards" in large, bold, orange letters. Below the banner is a blue and white graphic with the text "CURRENT PHASE" and "The second draft of the NGSS is ready for your review through January 29". At the bottom of the page, there is a navigation bar with three links: "About NGSS", "Latest News", and "Resources". In the bottom right corner, the "MICHIGAN Department of Education" logo is visible.

January DRAFT NGSS Extensive Supporting Documents



- Appendices have been added to support the NGSS and in response to feedback
 - Appendix A – Conceptual Shifts
 - Appendix B – Responses to May Public Feedback
 - Appendix C – Career and College Readiness (CCR)
 - Appendix D – All Standards, All Students
 - Appendix E – Disciplinary Core Idea Progressions in the NGSS
 - Appendix F – Science and Engineering Practices in the NGSS
 - Appendix G – Crosscutting Concepts in the NGSS
 - Appendix H – Nature of Science
 - Appendix I – Engineering Design, Technology, and the Applications of Science in the NGSS
 - Appendix J – Model Course Mapping in Middle and High School
 - Appendix K – Connections to the CCSS-Mathematics

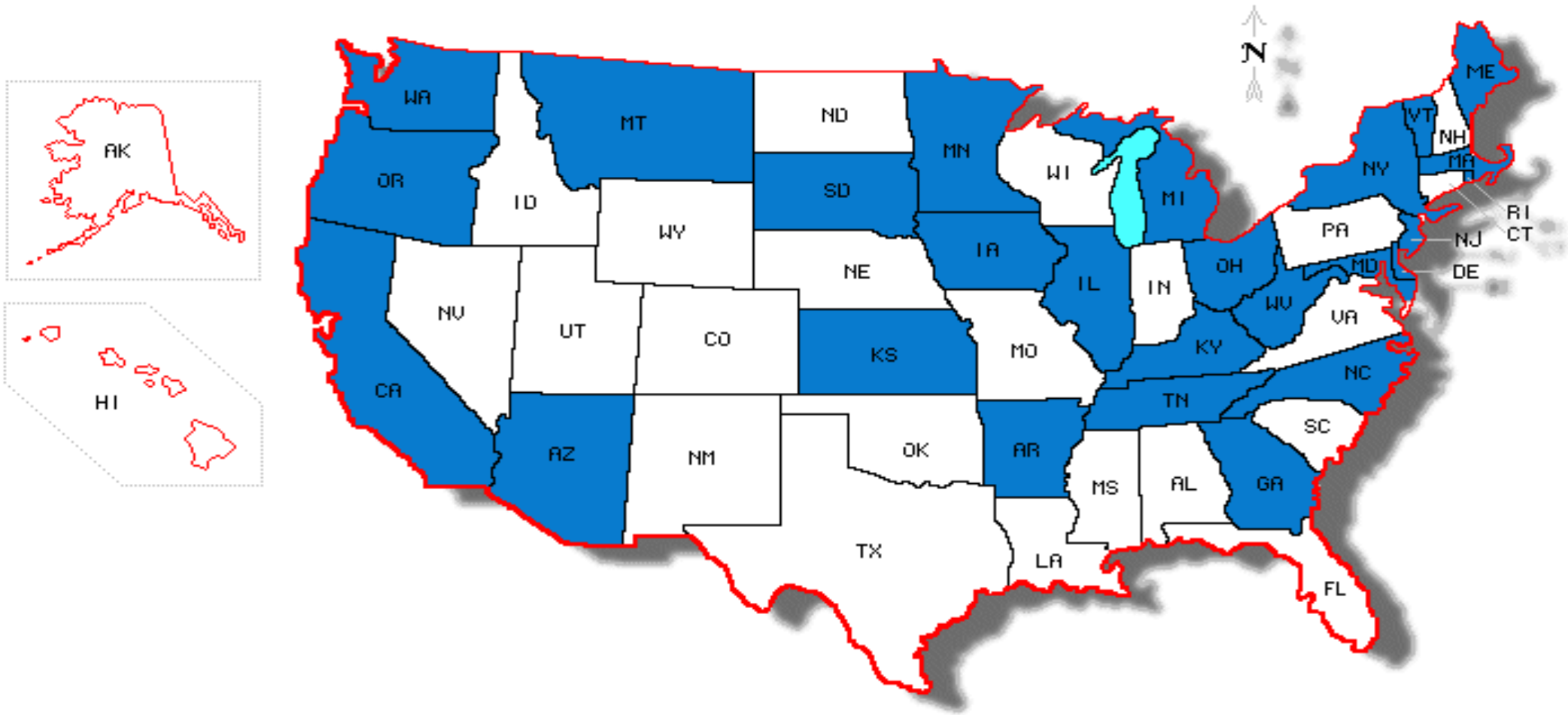
CCR in Science Draft Definition

CCR Students can demonstrate evidence of:



- Self-directed planning, monitoring, and evaluating,
- Applying knowledge more flexibly across various disciplines,
- Employing valid and reliable research strategies,
- Exhibiting evidence of the effective transfer of mathematics and disciplinary literacy skills to science.

26 NGSS Lead States



Michigan NGSS Development Timeline

- Lead State Meeting (Achieve, September 2011)
- *MI Internal Review* Team reviews first draft (November/December 2011)
- Lead States meet with Writers (Early January 2012)
- Critical Stakeholders, All States, Leads (January – February)
- *Public Draft; MI State Review Meetings; State Report (May)*
- All State Review; *MI Internal Review (Summer, Fall)*
- *2nd Public Draft (January 2013)*
- Final Draft; *MI Internal Review (February 2013)*
- Final State Report (February 2013)
- Seek MI State Board of Education Approval for Public Comment (April 2013)
- Seek MI State Board of Education Approval of NGSS (May 2013)

Transitioning to NGSS



- Collaboration with stakeholder groups
 - Math and Science Centers Network, Higher Education, STEM Partnership, local educators, intermediate school district representatives, professional organizations, and business partners
 - Roll-Outs
 - Professional Development
 - Support and Technical Assistance
 - Assessment Development
- MDE cross-office communications to address impact on future assessment
- Anticipate 3-4 year transition to full implementation of NGSS

NGSS Information



- Official NGSS Site www.nextgenscience.org
- MDE NGSS Page Shortcut [www.michigan.gov/ngss](http://michigan.gov/mde/0,4615,7-140-28753_38684_28760-277001--,00.html)
http://michigan.gov/mde/0,4615,7-140-28753_38684_28760-277001--,00.html

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